

Applicant : Vadiraja Murthy and Edward R. Burns
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released with hemoglobin during cell aging; (ii) cell aging results in lysis of erythrocytes; (iii) adenylate kinase was suitable for monitoring cell lysis during storage of erythrocytes; (iv) there was a high correlation between extracellular adenylate cyclase and hemoglobin; and (v) adenylate cyclase measurement is a sensitive way to follow hemolysis. It is also asserted that Olsson does distinguish between erythrocyte adenylate cyclase and that of other sources using the erythrocyte adenylate cyclase-specific inhibitor DAPP. Applicants respectfully request reconsideration and withdrawal of this rejection based on the following remarks.

Applicants assert that Olsson never establishes a correlation between hemolysis and erythrocyte adenylate cyclase activity. Although Olsson did evaluate the ability of DAPP to inhibit plasma adenylate cyclase in one plasma sample (p. 442), in no other study did Olsson evaluate whether the detected adenylate cyclase was erythrocyte adenylate cyclase. The only study discussed in Olsson that compared adenylate cyclase levels with a prior art method of measuring hemolysis (determination of extracellular hemoglobin) was the study discussed in the last paragraph of page 442 and Fig. 6 on page 443. In that study, Olsson did not evaluate the source of the adenylate cyclase.

Two of the three samples evaluated in that study were red blood cell preparations, where the source of the adenylate cyclase would necessarily be from erythrocytes. The third preparation evaluated in that study was a whole blood preparation, where a significant amount of the adenylate cyclase could have been from platelets and not erythrocytes. Thus, Olsson does not ever establish that erythrocyte hemolysis can be correlated with erythrocyte adenylate cyclase activity, as required to make the instant claims obvious. Olsson provides the tools to determine whether the correlation can be made, but never determines whether the correlation is true. Thus, Olsson only suggests that erythrocyte adenylate cyclase activity could be a valid measure of hemolysis, but does not establish that correlation such that the skilled artisan would understand that the instant invention

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would have a substantial likelihood of success.

Olsson also does nothing to provide a correlation between erythrocyte adenylate cyclase and erythrocyte hemolysis in a subject as claimed, since Olsson only looked at stored blood products and not at freshly drawn blood of subjects suspected of having hemolysis. The skilled artisan would understand that results from freshly drawn blood could be very different from results from blood in storage. This further establishes that the skilled artisan would not believe that there was a substantial likelihood for success for the instant invention based on Olsson.

In light of the above remarks, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 20 under 35 U.S.C. 103(a) and passage of the claim to allowance. Should there be any additional matters that prevent allowance of the claim, the Examiner is urged to contact the undersigned attorney.

Respectfully submitted,

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